I Claim:

1. An apparatus for depositing particulate matter onto a supply of absorbent core fibrous substrate material moving in a machine direction comprising:

a feed tray having an inlet for receiving a supply of particulate matter;

a shuttle pan slideably positioned to form at least part of a lower pan of the feed tray;

the shuttle pan having an outlet edge located proximal the supply of absorbent core fibrous substrate material, the outlet edge being located so that the supply of particulate matter passes over the outlet edge to exit the feed tray and be deposited on the supply of absorbent core fibrous substrate material;

the shuttle pan having a range of motion comprising a forward stroke and a backward stroke, wherein during the forward stroke the outlet edge follows the supply of absorbent core fibrous substrate material; and

a mechanism for moving the shuttle pan through its range of motion.

2. The apparatus of claim 1, wherein the supply of particulate matter is a supply of superabsorbent particles.

3. The apparatus of claim 1, wherein the supply of absorbent core fibrous substrate material comprises a supply of cellulose acetate tow.

4. The apparatus of claim 1, wherein the shuttle pan forms substantially all of the lower pan of the feed tray.

5. The apparatus of claim 1, wherein the supply of absorbent core fibrous substrate material is conveyed by a conveying mechanism that is offset from the outlet edge by an offset distance.

6. The apparatus of claim 5, wherein the offset distance is from about 0.25 inches to about 4.00 inches.

7. The apparatus of claim 5, wherein the offset distance is from about 0.375 inches to about 1.00 inch

8. The apparatus of claim 5, wherein the offset distance is from about 0.50 inches.

9. The apparatus of claim 5, wherein the conveying mechanism is substantially parallel to the shuttle pan.

10. The apparatus of claim 5, wherein:

the conveying mechanism is not substantially parallel to the shuttle pan;

at one position of the range of motion the outlet edge is offset from the conveying mechanism by a maximum offset distance;

at another position of the range of motion the outlet edge is offset from the conveying mechanism by a minimum offset distance; and

the maximum offset distance is not more than about 300% of the minimum offset distance.

11. The apparatus of claim 5, wherein the conveying mechanism is a combining drum.

12. The apparatus of claim 1, wherein the range of motion traverses a stroke distance of from about 2 inches to about 13 inches.

13. The apparatus of claim 1, wherein the range of motion traverses a stroke distance of from about 4 inches to about 11 inches.

14. The apparatus of claim 1, wherein the range of motion traverses a stroke distance of from about 6 inches to about 9 inches.

15. The apparatus of claim 1, wherein the feed tray is a vibratory feed tray.

16. The apparatus of claim 1, wherein the feed tray is a fixed feed tray.

17. The apparatus of claim 16, further comprising a metered flow device for conveying particulate matter to the inlet.

18. The apparatus of claim 17, wherein the metered flow device is an auger-type feeder.

19. The apparatus of claim 1, wherein the amount of particulate matter deposited from the feed tray is controlled by a loss-in-weight control system.

20. A method for depositing particulate matter onto a supply of absorbent core fibrous substrate material moving in a machine direction comprising:

supplying particulate matter to a feed tray having a shuttle pan;

sliding the shuttle pan through a range of motion comprising a forward stroke and a backward stroke, wherein during the forward stroke an outlet edge of the shuttle pan follows the supply of absorbent core fibrous substrate material, thereby depositing zones having a relatively high concentration of particulate matter onto the absorbent core fibrous substrate material.

21. The method of claim 20, wherein the supply of particulate matter is a supply of superabsorbent particles.

22. The method of claim 20, wherein the supply of absorbent core fibrous substrate material comprises a supply of cellulose acetate tow.

23. The method of claim 20, wherein sliding the shuttle pan through a range of motion comprises sliding the shuttle pan through a range of motion of from about 2 inches to about 13 inches.

24. The method of claim 20, wherein sliding the shuttle pan through a range of motion comprises sliding the shuttle pan through a range of motion of from about 4 inches to about 11 inches.

25. The method of claim 20, wherein sliding the shuttle pan through a range of motion comprises sliding the shuttle pan through a range of motion of from about 6 inches to about 9 inches.

26. The method of claim 20, further comprising vibrating the feed tray.

27. The method of claim 20, wherein supplying particulate matter comprises supplying particulate matter with a metered flow device.

28. The method of claim 27, wherein the metered flow device is an auger-type feeder.

29. The method of claim 20, further comprising controlling the amount of particulate matter deposited onto the supply of absorbent core fibrous substrate material using a loss-in-weight control system.

30. An absorbent garment comprising:

a topsheet;

a backsheet; and

an absorbent core disposed between the topsheet and the backsheet comprising fibrous substrate material and particulate matter;

wherein the particulate matter is distributed in the fibrous substrate material using the apparatus of claim 1.

31. The absorbent article of claim 30, wherein the fibrous substrate material comprises an opened tow of cellulose acetate and the particulate matter comprises superabsorbent particles.

32. An absorbent article comprising:

a topsheet;

a backsheet; and

an absorbent core disposed between the topsheet and the backsheet comprising fibrous substrate material and particulate matter;

wherein the particulate matter is distributed in the fibrous substrate material using the method of claim 20.

33. The absorbent article of claim 32, wherein the fibrous substrate material comprises an opened tow of cellulose acetate and the particulate matter comprises superabsorbent particles.